lymphocyte infusion (DLI) was superior to that of patients without prophylactic DLI (38.0% vs 11.8%,P=0.001). Sex, age, conditioning regimen (dosage of ATG), number of HLA mismatched or the number of stem cells infused were not the factors affecting OS, DFS and relapse. Multivariate analysis showed that the significant factors associated with higher OS were the use of prophylactic DLI, the disease type of AML and occurrence of chronic GVHD.

Conclusions: Haploidentical allo-HSCT can cure a significant proportion of refractory/relapsed acute leukemia patients. Prophylactic DLI can reduce relapse and increase survival; for patients with refractory/relapsed ALL, other post-transplant therapy should be explored.

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High Risk Allogeneic Hematopoietic Cell Transplant (HCT) Patients with Any Level of Cytomegalovirus (CMV) Viremia Should Be Treated with Antiviral Therapy to Prevent Serious CMV Disease

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CMV disease in patients undergoing allogeneic HCT is a major source of morbidity and mortality. CMV PCR allows for earlier detection of viremia and preemptive anti-viral therapy. A recent study by Milano et al. (Blood 2011) has reported the efficacy of the use of intensive CMV prophylaxis in umbilical cord blood recipients. In this case series (table below), we describe 3 patients in whom active CMV disease was detected in the context of a viral load which fluctuated between very low level viremia (<150 copies/ml) and undetectable. The patients (3 males, ages 4-11), all received high risk transplants (2 double cord, 1 9/10 URD) for advanced leukemias. All three received myeloablative doses of total body irradiation and cyclophosphamide and the two cord blood recipients received fludarabine additionally. All patients were CMV sero-positive while their donors were CMV sero-negative. They had symptomatic biopsy-proven CMV disease in various locations including the stomach, gallbladder, sinuses and lung. They were treated with intravenous ganciclovir and Cytogam induction and two transitioned to foscarnet due to myelosuppression. All three recovered from their symptomatic disease, although they continued to have fluctuating positivity of their serum CMV PCR. This experience at a single institution in the last year suggests that although CMV PCR has reduced the need for prophylactic ganciclovir in patients undergoing allogeneic HCT, active infection can develop in high risk patients even with very low level of viremia. Therefore, an intensive prophylactic strategy and treatment of any level of viremia, along with a high index of suspicion for CMV disease is required in high risk patients. Additionally, tissue diagnosis, especially with unusual organ involvement such as gallbladder in our patient, should be obtained when possible.

Table

	Patient 1	Patient 2	Patient 3
Age/Sex	11/M	4/M	10/M
Underlying Diagnosis	SAA with secondary M7 AML	High risk pre-B cell ALL	Relapsed pre-B cell ALL
Donor Source	Double umbilical cord (dUCB)	9/10 matched unrelated donor	dUCB
GVHD	None	Grade IV skin, gut, and liver GVHD	Grade III skin and gut GVHD
CMV viral load at biopsy/ Range	<150 copies/ml Not detected - <150	<150 copies/ml Not detected - <150	#1- 400 copies/ml, #2- not detected Not detected - 11,200
Disease	Day +42 Esophagoduodenal endoscopy: Gastritis with CMV inclusions and CMV positive immunohistochemical stain	Day +285 Cholecystectomy: Perforated chronic cholecystitis with hemobilia, CMV PCR pos	Day +162 Left endoscopic sphenoidotomy: Chronic inflammation with shell vial CMV positivity Day +286 Lung biopsy: CMV PCR pos
Outcome	Symptoms of gastritis resolved	Gradual but complete recovery after stabilization in the ICU	Symptoms improved, Follow up CT scans showed improvement

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Sequential Allogeneic Stem Cell Transplantation in High Risk Acute Myeloid Leukemia and Myelodysplastic Syndrome

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Aim: To evaluate this strategy in high risk acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS).

We treated 17 patients with AML or MDS. This cohort consisted of nine patients who did not reach complete remission, 5 patients who reached complete remission but remained with high burden of residual disease and 3 patients up front transplanted for myelodysplatic syndrome with high blast count. Median age was 54 years (32-65years). Median count of blasts in bone marrow before sequential transplantation was 9% (1-76%). 6 patients were transplanted with HLA identical sibling, 8 patients were transplanted with matched unrelated donor (10/10) and 3 patients had unrelated donor with one mismatch (9/10). Flag-Ida chemotherapy (CHT) (n=4), 3+7 CHT (n=7) or CHT based on monotherapy with Cytarabin was used as a cytoreduction. Between cytoreductive CHT and preparative regimen was instituted rest period with median of 5 days (2-14 days). After these days of rest preparative regimen consisted of Fludarabin/Busulfan was initiated. Total dose o Busulfan was 8mg/kg n=6), 12mg/kg(n=6) nad 16mg/kg (n=5). Thymoglobulin (total dose 7,5mg/kg) was used in case of unrelated donor in days -3 to -1.

Results: Estimated overall survival at 2 years was 67,6%. Whole regimen was tolerated very well even with the highest dose of Busulfan. Transplant related mortality at 100 days was 6% (1 patient with insufitient engraftment died due to infection). 5 patients relapsed after transplantation, 1 patient progressed after transplantation. From these patients just 1 patient did not die due to relapse and was succesfully rescued with chemotherapy and donor lymphocyte infusion.

Conclusion: Sequential transplantation is our method of choice in high risk AML and MDS. We demonstrate very low transplant related mortality and promising long term survival of this cohort of high risk patients.